ADB

ASIAN DEVELOPMENT REVIEW

Volume 23   2006   Number 1

2006   ASIAN DEVELOPMENT REVIEW   Volume 23 Number 1

About the Asian Development Bank

The work of the Asian Development Bank (ADB) is aimed at improving the welfare of the people in Asia and the Pacific, particularly the 1.9 billion who live on less than $2 a day. Despite many success stories, Asia and the Pacific remains home to two thirds of the world's poor. ADB is a multilateral development finance institution owned by 64 members, 46 from the region and 18 from other parts of the globe. ADB's vision is a region free of poverty. Its mission is to help its developing member countries reduce poverty and improve the quality of life of their citizens.

ADB's main instruments for providing help to its developing member countries are policy dialogue, loans, technical assistance, grants, guarantees, and equity investments. ADB's annual lending volume is typically about $6 billion, with technical assistance usually totaling about $180 million a year.

ADB's headquarters is in Manila. It has 26 offices around the world and has more than 2,000 employees from over 50 countries.

Printed in the Philippines

The *Asian Development Review* is a professional journal for disseminating the results of economic and development research carried out by staff and resource persons of the Asian Development Bank (ADB). The *Review* stresses policy and operational relevance of development issues rather than the technical aspects of economics and other social sciences. Articles are intended for readership among economists and social scientists in government, private sector, academia, and international organizations.

The *Review* also invites contributions from external scholars and researchers dealing with Asian and Pacific development issues. All submitted manuscripts are subject to review by two external referees and one ADB staff member.

Opinions expressed in the *Review* are those of the authors and do not necessarily reflect the views or policies of ADB.

Please direct all editorial correspondence to the Managing Editor, *Asian Development Review*, Economics and Research Department, Asian Development Bank, 6 ADB Avenue, Mandaluyong City, 1550 Metro Manila, Philippines.

For more information, please visit the Web sites of the *Review*
at http://www.adb.org/Documents/Periodicals/ADR
and the Asian Development Bank at http://www.adb.org

ASIAN DEVELOPMENT
REVIEW

Asia's Current Account Surplus: Savings Glut or Investment Drought?

JESUS FELIPE, KRISTINE KINTANAR, AND JOSEPH ANTHONY LIM

Over the last few years economists have started referring to the existence of "global payments imbalances", reflected in the growing current account surpluses and deficits among different regions of the world (surpluses mostly, but not only, by a number of Asian countries; deficits mainly by the US), together with a substantial accumulation of international reserves (also by a number of Asian countries). This paper examines Asia's current account surplus from the perspective of the savings–investment gap in order to determine whether the surplus is a result of an increase in savings rates (i.e., a savings glut) or a decline in investment rates (i.e., an investment drought). The analysis indicates that Asian current account surpluses are mostly associated with significant investment declines after the Asian financial crisis. Using data from 1986 to 2003 for a group of Southeast Asian countries, we find that the decrease and stagnation of domestic credit, the creation of excess capacity, and the relative decline of profit rates have contributed to the fall of investment rates across Asia, indicating a return to export-led growth.

I. INTRODUCTION

The term "global payments imbalances", as it is being used of late, refers to the growing current account surpluses and substantial accumulation of international reserves by a number of Asian countries in the face of a growing current account deficit in the United States (US). The trends seen during the last few years have raised a number of concerns.

Figure 1 shows the current account balances of the different regions of the world for 1990–2005. The figure provides essential information to understand the concerns about the imbalances. Until the mid-1990s the surpluses/deficits were relatively small. Starting in 1998, however, they began increasing very fast and

show no tendency to stabilize.[1] When current account surpluses/deficits are normalized by world gross domestic product (GDP), as shown in Figure 2, a similar pattern is detected, that is, the imbalances present no tendency to stabilize.

Figure 1. **World Current Account Balance**
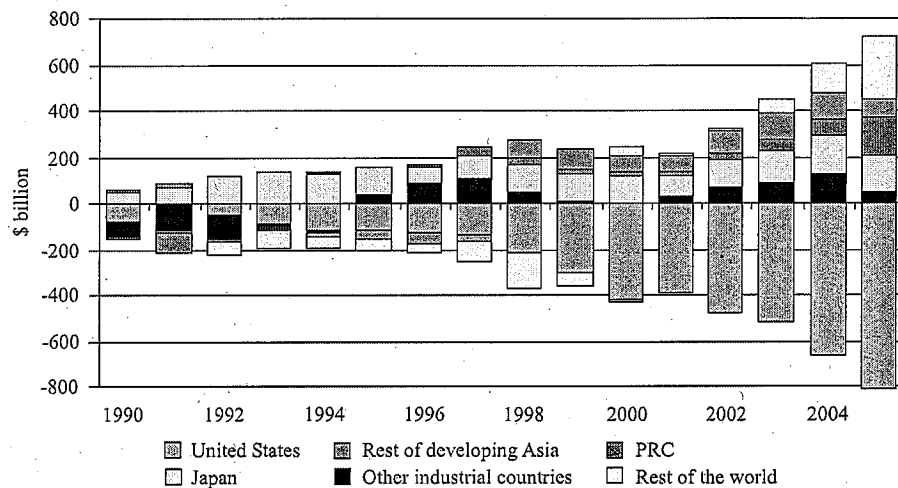
Sources: *International Financial Statistics* (IMF various years), *World Economic Outlook 2005* (IMF 2005).

Figure 2. **Current Account Balances, as Percentage of World GDP**
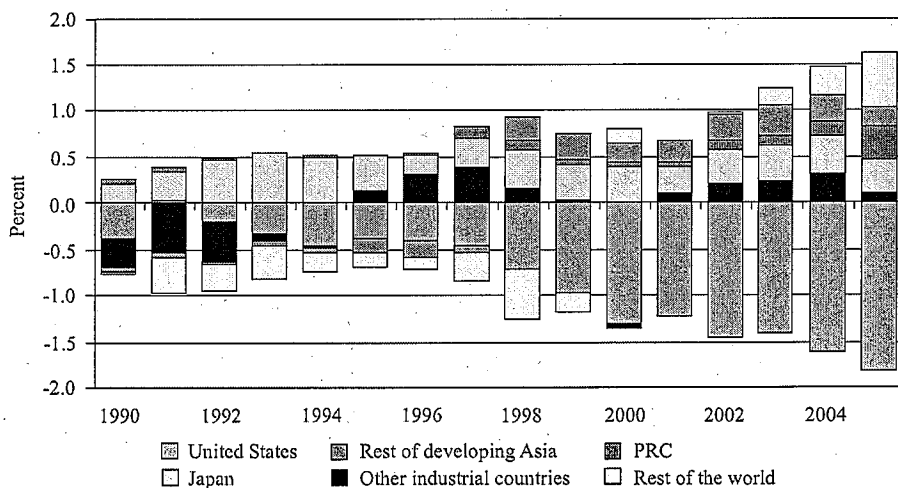
Sources: *International Financial Statistics* (IMF various years), *World Economic Outlook 2005* (IMF 2005).

---

[1]Total surpluses/deficits do not add up to zero due to the existence of statistical discrepancy.

The US has had a current account deficit every year during this 16-year period, except in 1991. In 2004–2005, it represented more than 1.5% of world GDP. Since the mid-1990s, the deficit has more than doubled, and in 2005 it represented 6.4% of US GDP (up from about 1.6% in 1996) or 1.80% of world GDP. On the other hand, Japan has consistently been in surplus. Between 1990 and 1997, except for the People's Republic of China (PRC), which had a small surplus, developing Asia (comprising Central Asia, the newly industrialized economies [NIEs], the Pacific, South Asia, and Southeast Asia) was in deficit. Since 1997 the PRC's surplus has increased significantly. In 2002, the PRC had a current account surplus of $35 billion, but by 2005 this had soared to $159 billion, equivalent to 0.357% of world GDP (more than twice as much as in 2004). The rest of developing Asia turned into surplus, reaching $85 billion in 2005. Starting in 2003, the surpluses of the rest of the world (the combined surpluses of Africa, Eastern Europe, Latin America, Middle East, and Russia) also increased significantly to about $266 billion in 2005 (equivalent to 0.6% of world GDP), mostly due to significant oil revenues as a result of the run-up in oil prices over that period, surpassing that of total developing Asia ($244 billion). Today, the group of countries with the world's biggest current account surplus is not emerging Asia, but the oil exporters (almost $400 billion in 2005). In fact, the rise in oil prices explains half of the widening of the US current account deficit since 2003, a larger share than that accounted for by the PRC. These swings coincided with the increase in the US current account deficit.

The two key questions regarding the imbalances are, first, whether they are sustainable; and second, if they are not, how they are likely to be resolved and over what period of time. Views on these issues are surprisingly diverse (Roubini 2005 and Eichengreen 2006 provide in-depth discussions; see also Felipe et al. 2006 for a brief summary and discussion). One view of the US deficits, and payments imbalances in general, is that they do not pose a problem. Under this view, the current account deficit is the result of the state of world affairs. In particular, the US is running a series of temporary wars against terrorism and, somehow, it is providing the global public good of international security to the rest of the world. As these wars are temporary, the deficit will eventually disappear. Those financing the US deficit, among them the Asian countries in particular, find the situation acceptable, as from their point of view it allows them to continue with their export-led growth model that relies on exports to the US. What the US needs to do is to prove its credibility to the market in the sense of showing that its policy trajectory is sound; in other words, the US does not necessarily have to cut the deficit by, let's say, one half. What it needs to prove is that it is heading in the right direction. This is perhaps what has been questioned lately. Another optimistic view of this debate is that as the US economy exhibits higher productivity and growth than other developed regions; it provides safe and nonrisky investments to savings funds from the rest of the world. Under this

perspective, the imbalances reflect the fact that savings funds from the rest of the world flow to the US, where they finance the growth of high-productivity sectors.

The previous views do not reflect, however, the most widely accepted position among economists, namely, that imbalances constitute a potential threat to global economic stability. But people who agree on this also have different opinions about how adjustments will occur—whether they will be smooth or abrupt, whether they will involve predominantly movements in the real sector or the financial sector, the manner in which central banks will intervene, and the like. The prevailing view is that the US deficits are a problem because they represent, given the size of the US economy, a very large global imbalance that needs to be addressed. Indeed, the US requires about $700 billion from the rest of the world to finance its deficit. This requires an analysis of the causes that have led to the current state of affairs and of its implications.

This paper explores the causes and implications of this global imbalance from the point of view of Asia, particularly the role of developing Asia in generating it, as in 2005 this region ran a current account surplus of close to $250 billion. If to this we add Japan's surplus of $164 billion, perhaps the idea of imbalance with a geographical connotation is somewhat justified.

The rest of the paper is organized as follows. Section II summarizes the two main views of the global imbalance problem, namely that it is due to a savings glut, and the alternative that it is due to an investment drought. In Section III we review Asia's current account surplus. Section IV takes a look at the savings–investment imbalance in Asia, and discusses if Asia suffers from a savings glut or a investment drought. Section V offers an analysis of the causes behind the investment decline in a number of Asian countries. Section VI concludes.

II. DIFFERENT VIEWS OF WHAT HAS CAUSED THE GLOBAL IMBALANCE

From a trade point of view, the US current account deficit simply indicates that exports fall short of imports and is the result of an increase in the US demand for foreign goods—itself the result of relatively higher US growth relative to its trading partners. From this point of view, the deficit is probably due to changes in the quality or composition of US and foreign-made products, changes in trade policy, or even due to unfair foreign competition, that is, a series of trade-related factors. From the savings–investment point of view, the deficit is due to the shortfall of savings with respect to investment, the result of an increase in the foreign demand for US assets since the late 1990s. From this point of view, the deficit is determined by the evolution of foreign and domestic incomes, asset

prices, interest rates, and exchange rates—forces related to the evolution of international financial flows.[2]

Table 1a summarizes the global current account balances for 1996, 2000, and 2004.[3] The most significant fact that comes out of this table is the shift that has occurred between industrial and developing countries. While the latter had a combined deficit of about $86 billion in 1996 (1.2% of their combined GDP), in 2004 they ran a combined surplus of $340 billion (3.5% of their GDP), most of it concentrated in Asia and the Middle East. Moreover, all developing country subregions, except Central and Eastern Europe, ran surpluses in 2004. The industrial countries, except the US, also ran a significant combined surplus of about $245 billion, but not enough to finance the US deficit (this surplus is equivalent to only 36% of the US deficit).[4] Most of the additional financing must come from the developing countries.

Table 1a also indicates the following: (i) the US current account balance is today's single largest imbalance in the world economy; (ii) as a whole, the industrial world runs a current account deficit while the developing world runs a sizeable surplus; (iii) Asia accounted for almost 60% of the developing countries' surplus in 2004, with all its subregions in surplus; (iv) between 1996 and 2004, the current account balance of the developing world shifted by $426.6 billion and that of Asia by $235.3 billion; and (v) the situation raises concerns about the sustainability of the US deficit, which, given its size, requires a transfer of funds from the developing countries.

---

[2]In this paper we do not address directly the US current account deficit and its possible solutions. The interested reader could consult Blanchard et al. (2005). The authors explain the US current account deficit in terms of a model of imperfect substitutability between US and foreign goods, and between US and foreign assets. In this context, increases in US demand for foreign goods and increases in foreign demand for foreign assets have combined to increase the current account deficit. The authors are led to conclude that the trade deficit will not reverse by itself and that foreign demand for US assets cannot continue increasing. Hence, they foresee a depreciation of the US dollar. Mussa (2005) also offers a comprehensive analysis.

[3]This paper was first drafted during the summer of 2005. For this reason, latest figures are for 2004, despite the use of 2005 figures in the Introduction.

[4]The deficit of industrial countries is mostly the result of the US deficit. Of course, not every industrial country runs a current account surplus. Australia, Spain, or United Kingdom, for example, run deficits.

Table 1a. **Global Current Account Balance Summary**

Current Account Balances	In Billion US Dollars			In Percent to GDP		
	1996	2000	2004	1996	2000	2004
Industrial	**33.9**	**−293.3**	**−420.9**	**0.1**	**−1.2**	**−1.4**
United States	−120.2	−413.5	−665.9	−1.54	−4.21	−5.68
Japan	65.7	119.6	171.8	1.40	2.52	3.68
European Union (Euro 12)	79.0	−28.5	35.6	1.10	−0.47	0.38
Other	9.3	29.0	37.6	0.30	0.86	0.76
Developing	**−86.1**	**131.7**	**340.5**	**−1.2**	**1.8**	**3.5**
Asia	−38.2	89.9	197.1	−1.25	2.76	4.45
PRC	7.2	20.5	70.0	0.89	1.90	4.24
NIEs	−2.3	40.1	89.6	−0.21	3.72	7.12
South Asia	−12.0	−7.4	1.1	−2.42	−1.25	0.13
Southeast Asia	−31.4	36.5	36.0	−4.80	7.26	5.22
Other Asia	0.3	0.1	0.4	3.58	1.49	4.85
Middle East and Africa	6.4	76.0	113.6	0.67	7.09	7.56
Latin America	−39.0	−47.8	15.9	−2.13	−2.43	0.80
Eastern Europe and the former						
Soviet Union	−15.4	13.7	13.8	−1.43	1.41	0.78
Statistical Discrepancy	**−52.3**	**−161.6**	**−80.4**	**−0.2**	**−0.5**	**−0.2**

Source: *World Economic Outlook Database* (IMF 2005).

Perhaps the most important implication of the observations in the previous paragraphs regarding the US current account deficit is that the US is today a borrower (net debtor) while the developing world is a lender (net creditor). It is obvious that at any point in time, exports and imports of any country, the same as savings and investment, need not be equal to each other. What is worrisome about the current situation is that by now the US trade and current account deficits are deemed by many economists as excessively large due to the financing implications they have. The question is that although from the US's point of view 5.68% of the US GDP is not an excessively large share, in absolute terms, it implies that the US required a huge amount of resources—about $700 billion—from the rest of the world to finance it. That the industrial countries' (except the US) current account surpluses in 2000 and 2004, equivalent to $120.1 billion and $245 billion, respectively, were not enough to finance the US current account deficit is, perhaps, symptomatic of a situation that is not altogether normal. How is it possible that in 1996 the developing world had a combined current account deficit of about $86 billion and in 2004 they had a combined surplus of $340 billion, that is, a change of $426.6 billion? This raises the two important questions of why the developing countries are financing the US deficit

instead of using these resources for other purposes, and whether this situation is sustainable in the long run.[5]

As noted in the Introduction, most analysts believe that the current imbalances are not sustainable. Private savers and central banks outside the US will not continue to finance the US current account deficit at low rates of return once it becomes clear that the current account deficit is growing and approaching levels that in Third World countries led to crises (8–10% of GDP); and that the net external debt burden of the US becomes unbearably heavy. A sudden change of heart from private and official investors in US debt securities leading to large US balance of payments deficits and dwindling of reserves may trigger severe and damaging US dollar depreciation and/or large and harmful interest rates hikes. This would lead not only to a US recession but also induce a worldwide recession. High world interest rates hikes will also worsen the debt and debt service burden of indebted developing and emerging economies, and affect negatively their economic growth prospects (IMF 2004, Rajan 2006).

Given the consensus view that indeed this situation needs to be addressed, the next question to ask is that of its causes.[6] This is important because the nature of the causes will determine the type of policies to address the problem. Here, again, there are two very distinct views. The first one, opposite to the optimistic views summarized in the Introduction, is that the imbalance is the result of the US policies, in particular the US fiscal deficit, and is mostly independent of developments in the rest of the world. Under this view, the US is solely responsible for the situation, and the US has to bear the adjustment, essentially in terms of expenditure reduction policies. Expenditure-switching policies as a result of adjustment in exchange rates will not help much.

The other view of the imbalances is that in today's world, economic outcomes are the result of a number of factors, many of which are outside a single country's actions. This means that the US *alone* cannot be responsible for the current state of affairs. While imbalances are the result of uncoordinated policies intended by their promoters to boost national economic growth (mostly policies in the trade and finance arenas), the debate over global imbalances need not be couched in terms of international rivalry. Quite the contrary, the existence of global imbalances simply reflects deep economic linkages between countries in

---

[5]It is important to stress that investing international reserves in US assets need not be a waste of resources. This would be true only if the US assets yielded negative or very low rates of return. Increases in international reserves will be accompanied by increases in domestic currency, as the central bank captures the dollars in exchange for domestic currency, which has a potential of increasing domestic growth because of monetary and credit expansion. It all depends on whether the central bank sterilizes the increase in money supply. Developing countries can use international reserves to repay foreign debt, for example.

[6]See, for example, Bernanke (2005), Eichengreen (2004), McKinnon (2005), and Roubini (2005).

an increasingly global economy, whose development has created a unique symbiosis. This has led to a situation of *de facto* stability as both surplus and deficit nations know that moving one piece affects another one. Indeed, a large part to the Asian current account surpluses is invested in countries with current account deficits, such as the US, which supports demand in the latter. Conversely, the US buys cheap imports from Asia, which support export-led growth in the Asian countries. Consumers in the US have benefited directly from relatively cheap imports;[7] and indirectly, as these imports have held down inflation and interest rates. Moreover, cheap money has fueled a housing-price boom that has supported consumer spending even as real wages have stagnated. The problem with this situation is that some commentators feel this cannot go on forever, because if these flows were to adjust rapidly due to poorly coordinated international macroeconomic policies, the costs of adjusting to a new landscape would surely be high. An internationally coordinated and credible approach is therefore required to reduce the imbalances to a more manageable and acceptable level, such that it would not be perceived as a threat to the stability of the global economy. In the view of most economists, this approach will include at least some depreciation of the US dollar relative to key Asian currencies (particularly the PRC's renminbi), policies to increase the savings rate in the US and to reduce the fiscal deficit, as well as fiscal and monetary policies in the European Union (EU) and Japan designed to make up for slowing US demand. Given the international benefits of coordination, but the localized costs of implementation, the debate is really over who should move first, and how far.

Current account imbalances can be looked upon from the point of view of the savings–investment gap. From this point of view, the mirror image of the large US current account deficit is the large savings–investment surpluses that other parts of the world have. From the policy perspective, it is important, therefore, to discuss if this gap has been caused by a worldwide *savings glut* (Bernanke 2005); or whether the world suffers from an *investment drought*. These two views of the causes of the global imbalances seem to be almost tautological; however, it is interesting to look at the issue from these two seemingly opposing points of view, for they provide different perspectives and can lead to different policies to address the situation, especially in the Asian context.

The savings glut hypothesis argues that the glut appeared during the last decade, and it is the result of two developments. First, one source of saving is savings of industrial countries with aging populations. Indeed, as the labor forces of the developed world grow older, these countries are making large provisions for retirement pensions. Where are these savings being invested? Most of them are in the US. The reason, the argument goes, is that with its sound economy, the

---

[7]Wal-Mart, for example, imported goods from the PRC worth $18 billion in 2004.

US is the most attractive investment destination due to the sophistication of its financial markets as well as to the special international status of the US dollar. The second source of savings is the developing world. Probably, the most important reason that has led to the large accumulation of savings throughout the developing world is a precautionary motive following the financial crises in the second half of the 1990s. In response to these crises, developing countries saw the need to accumulate large amounts of reserves in order to defend their currencies should a situation similar to that of the 1990s arise, given that, unlike the EU countries or the US, developing countries cannot print reserve currency. This is most clear throughout Asia, where a number of countries have accumulated large amounts of reserves and become net exporters of capital.[8] These countries have also sent their excess savings to the US and invested them in US Treasuries.

The result is that the current account of the US has adjusted *endogenously* to these changes in financial market conditions. From the trade perspective, stock market wealth induced higher consumption among US consumers. A strong US dollar made imports cheap and exports expensive. From the savings–investment point of view, perceived profit opportunities led to higher capital investment, and the increase in household wealth and expectations of future income gains reduced US consumers' perceptions of the need to save. The conclusion is that the increase in the US current account deficit between 1996 and 2004 has been the result of a global savings glut combined with an appetite for investing in the US. Under this view, the global savings glut is keeping interest rates low, which makes the financing of the US current account feasible.

The investment drought view of the savings–investment surpluses argues that the alleged savings glut is not really the cause of the savings–investment imbalances, as private and public savings are falling in many parts of the world (Japan and the US have large public deficits; private savings are very low in the US). What has happened is that investment collapsed in both the developed and developing countries during the late 1990s and in 2000, and has failed to recover.

In the following three sections we look into the Asian current account surplus and analyze the two views described above, that is, we ask whether the evidence appears to support the view that Asia suffers from a *savings glut*, or from an *investment drought*. In particular, we examine if there have been significant changes after the 1997 Asian financial crisis.

---

[8]As of June 2005, the combined stock of reserves in PRC; Hong Kong, China; India; Indonesia; Korea; Malaysia; Philippines; Singapore; Taipei,China; and Thailand amounted to $1.7 trillion.

III. THE ASIAN CURRENT ACCOUNT SURPLUS IN PERSPECTIVE

A.   Global Current Account Imbalances

As indicated above, Asian countries, in particular the PRC, are committed to policies of export-led growth whose goal is to promote exports as a way of stimulating growth. This has led to large current account surpluses and reserves.[9]

Tables 1b and 1c show that about 58% of the developing world current account surplus in 2004 ($197.1 billion) and 55% of the developing world change in the current account position between 1996 and 2004 was due to Asia ($235.3 billion). Asia went from a combined deficit of $38.2 billion in 1996 to a combined surplus of $197.1 billion in 2004. Moreover, all Asian subregions were net exporters of capital in 2004. The PRC represents 35% of the Asian surplus and 20% of the developing countries' surplus. The PRC had a current account surplus of $70 billion (4.24% of GDP), the NIEs of $89.6 billion (7.12% of GDP), South Asia of $1.1 billion (0.13% of GDP), and Southeast Asia of $36 billion (5.22% of GDP). This indicates the following: (i) developing Asia is today the largest creditor region in the world; and (ii) the PRC runs a large current account surplus—the largest in developing Asia and only second to Japan's. Nevertheless, as percentage of its GDP, the surplus is not excessively large.

---

[9]For a discussion of export-led growth see McCombie and Thirlwall (1994). It must be stressed that the idea that payments surpluses in Asia reflect a conscious effort to maintain undervalued exchange rates intended to boost economic growth through exporting does not sit comfortably with the empirical record. Yes, fast growth of exports has been an important feature in the successful development of a number of countries. But where exports have grown quickly, so, too, have imports, particularly of capital and intermediate goods. Also, where fast economic growth has been sustained, it has usually been supported by strong domestic demand, particularly investment (ADB 2005). Over time, there have been significant swings in the contributions of domestic and external demand to growth in developing Asia. A decade ago, developing Asia was a current account deficit region and surging domestic demand was priming debt.

Table 1b. **Global Current Account Balance Disaggregated**
(billion US dollars)

	1996	2000	2004
Industrial	33.9	−293.3	−420.9
United States	−120.2	−413.5	−665.9
Japan	65.7	119.6	171.8
European Union (Euro 12)	79	−28.5	35.6
Other	9.3	29	37.6
Developing	−86.1	131.7	340.5
Asia	−38.2	89.9	197.1
PRC	7.2	20.5	70
NIEs	−2.3	40.1	89.6
Hong Kong, China	−4	7.1	15.9
Korea, Rep. of	−23.1	12.3	26.8
Singapore	13.9	11.9	27.9
Taipei,China	10.9	8.9	19
South Asia	−12	−7.4	1.1
Afghanistan	—	—	—
Bangladesh	−1	−0.7	−0.7
Bhutan	0	0	0
India	−6.1	−4.6	2.1
Maldives	0	−0.1	−0.1
Nepal	−0.2	0.2	0.2
Pakistan	−4.1	−1.2	0.3
Sri Lanka	−0.7	−1.1	−0.6
Southeast Asia	−31.4	36.5	36
Brunei Darussalam	2	3.5	4.2
Cambodia	−0.2	−0.1	−0.1
Indonesia	−7.3	8	7.3
Lao People's Democratic Republic	−0.2	0	−0.2
Malaysia	−4.5	8.5	15.7
Myanmar	−0.5	0.4	0
Philippines	−3.9	6.3	3.9
Thailand	−14.4	9.3	7.3
Viet Nam	−2.4	0.6	−2
Other Asia	0.3	0.1	0.4
Middle East	11.4	69.5	112.5
Africa	−5	6.5	1.1
Middle East and Africa	6.4	76	113.6
Latin America	−39	−47.8	15.9
Eastern Europe and the former Soviet Union	−15.4	13.7	13.8
Statistical Discrepancy	**−52.3**	**−161.6**	**−80.4**

Source: *World Economic Outlook Database* (IMF 2005).

Table 1c. **Global Current Account Balance Disaggregated**
(percent of GDP)

	1996	2000	2004
Industrial	0.1	−1.2	−1.4
United States	−1.54	−4.21	−5.68
Japan	1.4	2.52	3.68
European Union (Euro 12)	1.1	−0.47	0.38
Other	0.3	0.86	0.76
Developing	**−1.2**	**1.8**	**3.5**
Asia	−1.25	2.76	4.45
PRC	0.89	1.9	4.24
NIEs	−0.21	3.72	7.12
Hong Kong, China	−2.56	4.28	9.65
Korea, Rep. of	−4.14	2.39	3.94
Singapore	15.04	12.88	26.1
Taipei,China	3.91	2.87	6.23
South Asia	−2.42	−1.25	0.13
Afghanistan	—	—	—
Bangladesh	−2.4	−1.44	−1.19
Bhutan	6.52	−1.68	−2.01
India	−1.62	−1	0.31
Maldives	−1.56	−8.17	−11.82
Nepal	−5.4	3.21	2.5
Pakistan	−6.49	−1.89	0.34
Sri Lanka	−4.88	−6.42	−3.18
Southeast Asia	−4.8	7.26	5.22
Brunei Darussalam	37.17	81.7	76.29
Cambodia	−6.35	−3.01	−2.26
Indonesia	−2.93	4.87	2.82
Lao People's Democratic Republic	−12.66	−1.44	−8.46
Malaysia	−4.42	9.4	13.3
Myanmar	−10.29	4.2	−0.4
Philippines	−4.66	8.37	4.56
Thailand	−7.89	7.6	4.46
Viet Nam	−9.86	2.06	−4.59
Other Asia	3.58	1.49	4.85
Middle East	2.17	11	13.68
Africa	−1.15	1.48	0.16
Middle East and Africa	0.67	7.09	7.56
Latin America	−2.13	−2.43	0.8
Eastern Europe and the former Soviet Union	−1.43	1.41	0.78
Statistical Discrepancy	**−0.2**	**−0.5**	**−0.2**

Source: *World Economic Outlook Database* (IMF 2005).

B.   Increase in International Reserves in East and Southeast Asia

As noted above, Asian countries have accumulated a large stock of
reserves during the last few years. To what extent have capital inflows, vis-à-vis

trade flows (i.e., the trade account), been responsible for the increase in reserves? Table 2 shows the current and capital accounts as well as the change in and stock of reserves of a number of East and Southeast Asian countries. Up until 1996, many Asian countries had current account deficits, but positive net capital inflows more than compensated the deficits. An important part of these capital inflows was probably made up of short-term speculative loans and portfolio flows. The Asian crisis and its immediate aftermath led to large negative outflows on the nonforeign direct investment (FDI) (i.e., portfolio) capital account of many countries. Following a sharp depreciation of the real effective exchange rates, current account surpluses supported accumulation of international reserves. This situation continued for a number of years in countries like Indonesia, Malaysia (until 2003), Philippines, Singapore, and Thailand. For Taipei,China, the late 1990s were marked by large current account surpluses and negative net capital flows. The current account surpluses, however, dominated the net capital outflows in most years, contributing to growing international reserves. During the last few years, it has enjoyed both current account surpluses, the major contributor to the increase in international reserves, and positive net capital flows. Hong Kong, China enjoys large current account surpluses but also large capital outflows, especially in 1998 and during 2002–2004.

From the mid-1990s through 2003, FDI was the main contributor to capital inflows in the PRC. These large inflows dominated the current account surplus. However, large non-FDI outflows led to negative capital accounts between 1997 and 2000. In 2001 and 2002, non-FDI outflows decreased substantially, with the consequence that FDI inflows dominated and made the capital account positive again, even eclipsing the current account surplus. Starting in 2003, non-FDI flows turned strongly positive as the PRC opened its equities market to foreigners. By 2004, all three—portfolio flows, current account, and FDI—contributed positively to the increase in international reserves, with the capital account overshadowing the current account.

Finally, Republic of Korea (Korea) saw a strong recovery in net capital flows after 1998. This was caused initially by increases in both FDI and non-FDI flows (between 1999 and 2001). However, starting in 2001, non-FDI (i.e., portfolio) flows dominated the capital flows (although the current account surplus dominated the capital flows). Thus, international reserves in Korea during this period increased due to both current account surpluses and net capital inflows.

Table 2. **Balance of Payments—Current and Capital Account (% of GDP),
Reserves and Real Exchange Rates**

	1996	1997	1998	1999	2000	2001	2002	2003	2004
PRC									
Current Account	0.9	4.1	3.3	2.1	1.9	1.5	2.8	3.2	4.2
Capital Account (net)	3	−0.1	−2.7	−1.3	−0.9	2.6	3.1	5	8.3
FDI	4.7	4.6	4.3	3.7	3.5	3.2	3.7	3.3	3.2
Non-FDI	−1.7	−4.8	−7	−5	−4.4	−0.6	−0.6	1.7	5.1
Overall Balance	3.9	4	0.7	0.9	1	4	5.9	8.2	12.5
Real Exchange Rate	91.7	98	103.2	97.5	100	105	102.5	97.8	96.4
Stock of Reserves									
(billion US$)	107.04	142.76	149.19	157.73	168.28	215.61	291.13	408.15	614.5
Hong Kong, China									
Current Account	n.a.	n.a.	1.5	6.4	4.3	6.1	7.9	10.3	9.7
Capital Account (net)	n.a.	n.a.	−5.6	−0.2	1.8	−3.2	−9.4	−9.7	−7.8
FDI	n.a.	n.a.	−1.3	3.2	1.6	7.6	−4.9	5.2	−3.5
Non-FDI	n.a.	n.a.	−4.3	−3.4	0.2	−10.9	−4.5	−14.9	−4.3
Overall Balance	n.a.	n.a.	−4.1	6.2	6.1	2.9	−1.5	0.6	2
Real Exchange Rate	97.2	105.2	113.6	105.5	100	101.8	101.3	95	90.3
Stock of Reserves									
(billion US$)	63.81	92.8	89.65	96.24	107.54	111.16	111.9	118.36	123.54
Indonesia									
Current Account	−3.1	−2.1	3.9	3.8	4.8	4.2	3.9	3	1.2
Capital Account (net)	4.9	−1.4	−7.2	−2.5	−2.5	−4.2	−1.4	−1.5	−1.1
FDI	2.2	1.9	−0.2	−1.2	−2.8	−1.8	0.1	−0.3	0.4
Non-FDI	2.6	−3.3	−7	−1.3	0.3	−2.4	−1.5	−1.3	−1.5
Overall Balance	1.8	−3.4	−3.3	1.2	2.4	0	2.5	1.5	0.1
Real Exchange Rate	145.1	134.9	68	103.7	100	96.3	116	122.8	114
Stock of Reserves									
(billion US$)	18.25	16.59	22.71	26.45	28.5	27.25	30.97	34.96	34.95
Korea, Rep. of									
Current Account	−4.2	−1.6	11.6	5.5	2.4	1.7	1	2	4.1
Capital Account (net)	4.4	−2.8	−4.1	2	2.3	1.1	1.2	2.2	1.6
FDI	−0.4	−0.3	0.2	1.2	0.8	0.2	0	0	0.5
Non-FDI	4.8	−2.5	−4.3	0.8	1.4	0.9	1.2	2.3	1.1
Overall Balance	0.3	−4.4	7.4	7.5	4.6	2.8	2.1	4.3	5.7
Real Exchange Rate	113	105.2	83.9	93.8	100	90.3	93.2	92.8	95.5
Stock of Reserves									
(billion US)	34.04	20.37	51.97	73.99	96.13	102.75	121.35	155.28	199

Table 2. continued.

Malaysia

Current Account	-4.4	-5.9	13.2	15.9	9.4	8.3	7.6	12.9	12.6
Capital Account (net)	6.9	2.1	0.7	-10	-10.5	-7.1	-3.7	-3.1	5.9
FDI	5	5.1	3	3.1	2	0.3	1.4	1.1	2.2
Non-FDI	1.9	-3.1	-2.3	-13.1	-12.5	-7.5	-5.1	-4.1	3.8
Overall Balance	2.5	-3.9	13.9	6	-1.1	1.1	3.8	9.8	18.6
Real Exchange Rate	126.2	122.2	100.6	99.7	100	105.2	105	100.2	95.3
Stock of Reserves (billion US$)	27.01	20.79	25.56	30.59	29.52	30.47	34.22	44.52	66.38

Philippines

Current Account	-4.8	-5.3	2.4	9.5	8.4	1.9	5.8	4.3	1.9
Capital Account (net)	10	1.5	-0.4	-4.7	-8.9	-1.5	-5.9	-4.4	-2.2
FDI	1.6	1.3	3.3	2.3	1.9	1.6	2.3	0.2	0.1
Non-FDI	8.4	0.2	-3.7	-7	-10.8	-3.1	-8.2	-4.6	-2.3
Overall Balance	5.2	-3.8	2	4.8	-0.5	0.4	-0.1	-0.1	-0.3
Real Exchange Rate	129.5	121.7	96.6	103	100	107.5	111.7	107.1	101
Stock of Reserves (billion US$)	10.06	7.3	9.27	13.27	13.09	13.48	13.33	13.65	13.12

Singapore

Current Account	15.1	15.7	22.6	18.5	14.3	18.7	21.4	30.5	26.1
Capital Account (net)	-7.1	-7.2	-19	-13.5	-7	-19.8	-19.9	-23.3	-14.8
FDI	1.6	1.2	5.6	10.3	12.9	-2.5	2.2	6.4	5
Non-FDI	-8.7	-8.4	-24.6	-23.8	-19.9	-17.3	-22.1	-29.7	-19.8
Overall Balance	8	8.5	3.6	5.1	7.3	-1	1.5	7.2	11.3
Real Exchange Rate	101.8	99.1	94	92.4	100	99.6	97.9	97.4	99.3
Stock of Reserves (billion US$)	76.85	71.29	74.93	76.84	80.13	75.37	82.02	95.75	112.23

Taipei,China

Current Account	3.9	2.4	1.3	2.8	2.9	6.5	9.1	10.2	6.2
Capital Account (net)	-3.5	-2.7	0.5	3.7	-2.1	-0.3	2.9	2.7	2.5
FDI	0.7	-1	-1.4	-0.5	-0.6	-0.5	-1.2	-1.8	-1.7
Non-FDI	-2.8	-1.6	1.9	4.2	-1.5	0.2	4.1	4.6	4.2
Overall Balance	0.4	-0.3	1.8	6.5	0.8	6.2	12	13	8.7
Real Exchange Rate	106.1	107.1	100	96.3	100	95.5	93.1	89	90.9
Stock of Reserves (billion US$)	90.31	88.04	83.5	90.34	106.2	106.74	122.21	161.66	206.63

Thailand

|									
Current Account	-8.1	-2	12.7	10.1	7.6	5.4	5.5	5.6	4.5
Capital Account (net)	9.3	-10.1	-15.1	-9	-9.1	-3.4	-1.2	-5.2	-1
FDI	0.8	2.2	6.4	4.7	2.8	3.1	0.7	1	0.4
Non-FDI	8.5	-12.3	-21.6	-13.7	-11.8	-6.5	-1.8	-6.2	-1.4
Overall Balance	1.2	-12.1	-2.4	1.1	-1.5	2	4.4	0.4	3.5
Real Exchange Rate	118	109	98.6	102.4	100	96.4	100.5	99.9	100.7
Stock of Reserves (billion US$)	37.73	26.18	28.83	34.06	32.02	32.35	38.05	41.08	48.66

FDI means foreign direct investment.
Note: Net errors and omissions was added to the capital account.
Sources: *Key Indicators* (ADB various years) and *International Financial Statistics* (IMF various years).

Figure 3 shows the stock of foreign exchange reserves of developing Asia for 1995–2005. Capital flows to Asia have supplemented current account surpluses, leading to an expansion in Asia's foreign currency reserves. In 1995, the region had total reserves of $426 billion. By 2005, the stock had increased to $1.86 trillion, a difference of $1.43 trillion. A large (though not precisely measured) share of these reserves is reinvested in US dollar-denominated assets, mostly US Treasury bonds. These figures indicate that of the increase in reserves over this period, about 72% ($1.03 trillion) was accounted for by current account surpluses, while the rest was accounted for by capital account surpluses.

Figure 3. **Current Account Balances, as Percentage of World GDP**

$ billion
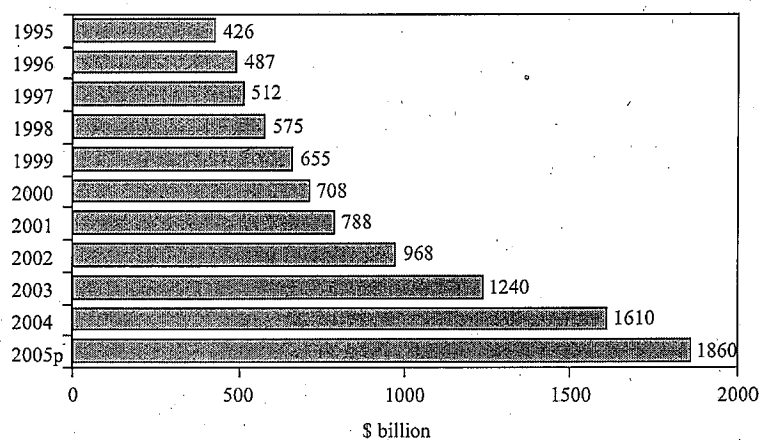
Sources: *International Financial Statistics* (IMF various years), *Asian Development Outlook 2006* (ADB 2006).

C.   Real Exchange Rate and Current Account

Table 2 also provides the real exchange rate.[10] The table indicates that there is a relationship between movements in the real exchange rate and the current account. When the countries hit by the Asian crisis (Indonesia, Korea, Malaysia, Philippines, and Thailand) exhibited "strong" exchange rates in 1996, they were also running significant current account deficits. These deficits turned into high current account surpluses in 1998 due to sharp currency depreciations. This represented the beginning of the accumulation of international reserves up to the present, and the positive savings–investment gap.

---

[10]This is the real exchange rate based on trade-weighted indices, with 2000=100, calculated by JP Morgan (taken from DATASTREAM).

The currencies of most of these countries recovered from their weakest level (1998) within the next couple of years, but they weakened again in recent years (especially in 2003 and/or 2004), although they have not gotten back to the low levels of 1998. This explains partly the high current account surpluses, especially in Malaysia, and also in Korea and Thailand. Indonesia and the Philippines have run substantially lower current account surpluses in 2004 due to higher import growth than export growth.

In the cases of PRC; Hong Kong, China; Singapore; and Taipei,China, the currencies weakened significantly during the last few years, especially in 2003 and 2004. This was accompanied by very high current account surpluses.

IV. SAVINGS AND INVESTMENT RATES ACROSS ASIA

The other side of the current account surplus is the savings–investment gap. Figures 4 to 7 show gross domestic savings and gross domestic investment as percentage of GDP for the PRC; NIEs (Hong Kong, China; Korea; Singapore; Taipei,China); ASEAN-4 (Indonesia, Malaysia, Philippines, Thailand); and South Asia (Bangladesh, India, Nepal, Pakistan, Sri Lanka).[11]

Figure 4 indicates that the NIEs' savings–investment gap widened in the post-Asian crisis period. On the other hand, the ASEAN-4 (Figure 5) savings–investment deficit switched after 1997 into a large surplus. South Asia (Figure 6) has been able to reduce the savings–investment deficit that was so pervasive throughout the 1980s. Thus, for the NIEs and ASEAN-4, savings–investment surpluses have become quite large in the post-Asian crisis period, while in South Asia, the savings–investment deficits have been eliminated.

Only the PRC seems to be going against the trend. Figure 7 shows that even if during most of the late 1980s and through the 1990s the PRC had sizeable savings–investment surpluses, these seem to be dwindling and even turned into deficit in 2003 and 2004.

---

[11]These regional savings and investment rates are weighted averages, where the weights are the shares in investment.

Figure 4. **NIEs: Savings and Investment Rates**
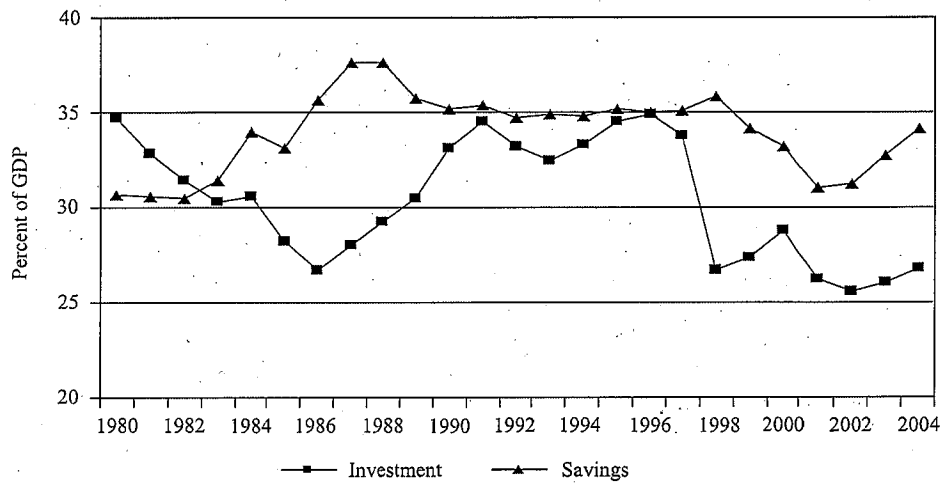
Source: *Key Indicators* (ADB various years).

Figure 5. **ASEAN 4: Savings and Investment Rates**
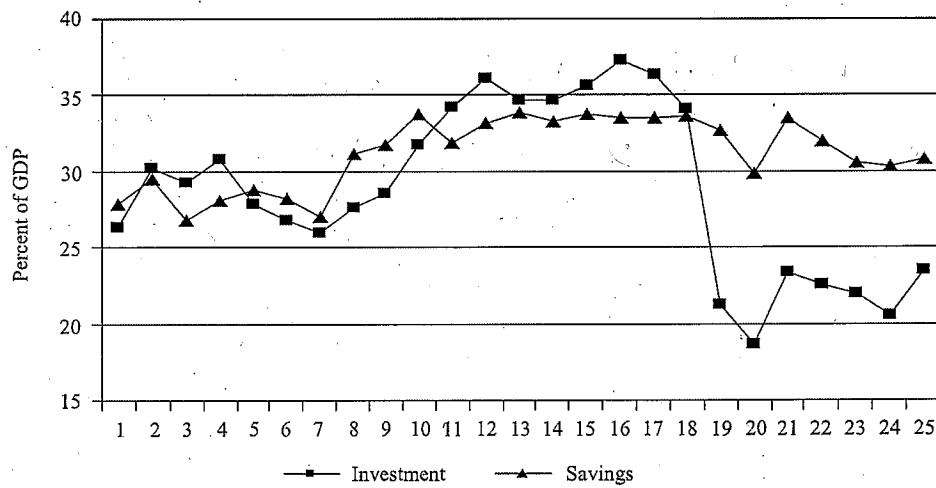
Source: *Key Indicators* (ADB various years).

Figure 6. **South Asia: Savings and Investment Rates**
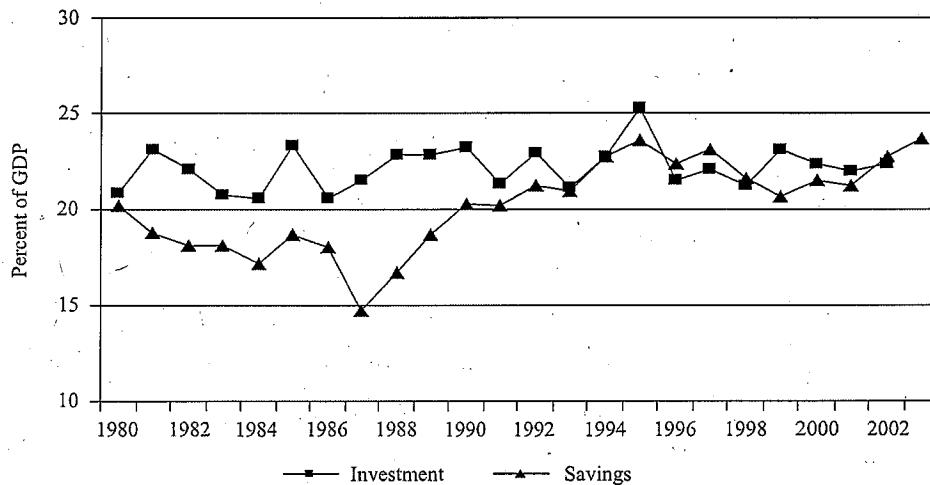
Source: *Key Indicators* (ADB various years).

Figure 7. The **PRC: Savings and Investment Rates**
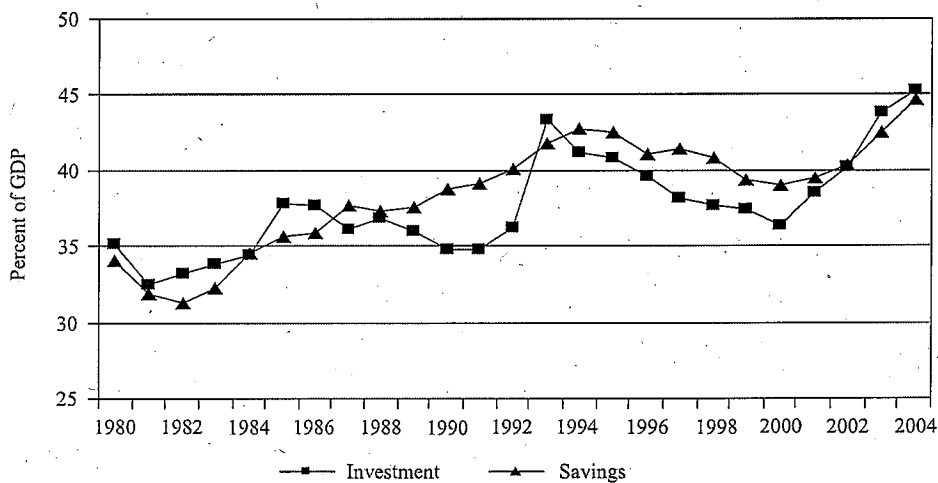
Source: *Key Indicators* (ADB various years).

A. Breakdown of the Savings–Investment Gap

Table 3 shows the savings–investment gap, disaggregated into the fiscal deficit and the private sector savings–investment gap for a number of East and Southeast Asian countries. Algebraically, it is shown in Equation (1):

$$(S-I) = \frac{(S_p - I_p)}{Y} + \frac{(S_g - I_g)}{Y} = \frac{(S_p - I_p)}{Y} + \frac{(T-G)}{Y} \qquad (1)$$

where

S = Gross domestic saving

I = Gross domestic investment

Y = Gross domestic product

S_p = Private savings

I_p = Private investments

S_g = Government savings

I_g = Government investments

T = Taxes

G = Government spending = Government consumption + I_g

Table 3. **Savings Investment Gap—Government and Private (percent of GDP)**

|	1996	1997	1998	1999	2000	2001	2002	2003	2004
Gross Domestic Savings – Gross Domestic Investment Gap									
East Asia									
PRC	1.5	3.3	3.1	2	2.6	1	0.1	−1.3	−0.5
Hong Kong, China	−2.4	−4.3	0.2	4.6	3.6	3.7	7.7	8.7	8.6
Korea, Rep. of	−3.1	−0.2	12.9	6.6	2.9	2.6	2.3	3.1	4.8
Taipei,China	2.5	1.4	0.5	1.8	1.5	4.5	6.6	6.9	2.7
Southeast Asia									
Indonesia	−0.6	−0.3	9.8	8.1	9.6	9.5	5.9	7.3	2.5
Malaysia	1.4	0.9	22	25.1	20	18.4	18.3	21	21.4
Philippines	−9.4	−10.6	−7.9	−4.4	−3.9	−1.9	1.4	2.9	3.8
Singapore	15.2	12.8	20.7	17	14.9	18.1	21.4	32	29.7
Thailand	−5.3	2	14.8	12.4	10.2	7.8	8.4	8.3	6.3
Fiscal Balance									
East Asia									
PRC	−1.85	−2.01	−2.56	−3.23	3.1	−2.83	−3.2	−2.66	−1.47
Hong Kong, China	2.12	6.46	−1.82	0.8	−0.61	−4.99	−4.95	−3.29	0.93
Korea, Rep. of	0.24	−1.42	−3.87	−2.47	1.13	1.17	3.31	1.05	0.72
Taipei,China	−1.41	−1.65	0.15	−1.3	−4.82	−6.64	−3.03	−2.48	−2.2

Table 3. continued.

Southeast Asia									
Indonesia	1.02	0.47	−1.69	−2.5	−1.08	−2.4	−1.49	−1.68	−1.06
Malaysia	0.72	2.35	−1.77	−3.15	−5.74	−5.51	−5.6	−5.31	−4.34
Philippines	0.29	0.06	−1.88	−3.8	−4	−4.05	−5.32	−4.65	−3.86
Singapore	10.47	11.7	3.43	7.15	10.04	5.13	4.31	6.48	5.61
Thailand	0.94	−1.5	−2.79	−3.33	−2.23	−2.4	−1.41	0.4	0.07
Crude Estimate of Private Savings – Investment Balance									
East Asia									
PRC	3.3	5.3	5.6	5.2	5.7	3.8	3.3	1.3	0.9
Hong Kong, China	−4.5	−10.7	2.1	3.8	4.2	8.7	12.7	12	7.7
Korea, Rep. of	−3.4	1.2	16.7	9.1	1.8	1.4	−1	2	4.1
Taipei,China	3.9	3	0.4	3.1	6.3	11.1	9.6	9.3	4.9
Southeast Asia									
Indonesia	−1.6	−0.7	11.4	10.6	10.7	11.9	7.3	9	3.6
Malaysia	0.7	−1.4	23.8	28.2	25.7	23.9	23.9	26.3	25.7
Philippines	−9.7	−10.6	−6.1	−0.6	0.1	2.2	6.7	7.6	7.7
Singapore	4.8	1.1	17.3	9.9	4.9	13	17.1	25.5	24.1
Thailand	−6.3	3.5	17.6	15.7	12.4	10.2	9.8	7.9	6.2

Source: *Key Indicators* (ADB various years).

The private savings–investment gap is a "crude" estimate, obtained by subtracting the fiscal gap from the gross domestic savings–investment gap.[12] Note that the private savings–investment gap comprises, by definition, the combined savings–investment gaps of the corporate and household sectors.

It can be seen that most countries hit by the Asian crisis—Indonesia, Korea, Philippines, Thailand—had negative savings–investment gaps (both in terms of the gross domestic savings–investment gaps and in terms of the private savings–investment gap) due to the high domestic demand expansion during the 1990s, prior to the outbreak of the Asian crisis (see ADB 2005). In Malaysia, which was also hit by the crisis, the gross domestic savings–investment gap was positive, but very low (less than 1.5% of GDP) in 1996 and 1997; and the private savings–investment gap was negative in 1997. Hong Kong, China also had a negative savings–investment gap prior to the crisis. PRC; Singapore; and Taipei,China had positive savings–investment gaps during 1996–1998 and did not exhibit the domestic demand expansion of the crisis-hit countries (especially in the private savings–investment gap).

---

[12]The fiscal gap was derived from the *Key Indicators* series of ADB (various years). It is a "crude" estimate because the fiscal data include revenues and expenditures that should not be included as part of the real sector estimation of savings and investments, e.g., the sale of assets and the payment of loans. However, it is difficult to separate these in the total fiscal figures provided by the statistics.

The deep recessions and very sharp depreciation of 1998 led to a reversal from the negative savings–investment gap to very positive in Indonesia, Korea, Malaysia, and Thailand. The positive savings–investment gaps of these countries remain until the present. Especially high is the savings–investment gap of Malaysia. The savings–investment gap of the Philippines was still negative in the immediate postcrisis period but the magnitude declined significantly during 1998–2001, and eventually turned positive in 2002.

In the cases of Hong Kong, China; Singapore; and Taipei,China the savings–investment gap has increased very significantly in the recent period of 2002–2004. The PRC, on the other hand, has experienced a declining savings–investment gap since 1999 and the gap turned negative in 2003 and 2004.

Except in Hong Kong, China; Korea; Malaysia; and Philippines, there has been a significant decline in the savings–investment gap, although it remains highly positive in the other countries (except in the PRC).[13] It can be seen that most countries, with the notable exception of Korea and Singapore, exhibited fiscal deficits during much of the period 1996–2004. In all countries, the high savings–investment gap discussed earlier was mainly the result of the high private savings–investment gap. The notable exception is the PRC, whose private savings–investment gap clearly declined in 2003 and 2004.

B.   Is there an Asian Savings Glut?

Given the analysis above, it seems that the answer is a clear no. Table 4 shows gross domestic savings rates across Asia for 1986, 1990, and for 1996–2004. The table reveals that there have not been significant increases in savings rates across the region so as to justify the view that there is a savings glut in Asia. Savings rates were not higher in 2004 than in 1996, before the financial crisis. This is most likely due to the fact that savings rates are determined by reasons not particularly sensitive to macroeconomic events and policy changes (e.g., fertility rates and demographic structure) and because consumption is quite stable over time. The exception is the PRC, where the gross domestic savings rate reached an all-time high of 44.7% of GDP in 2004.[14]

---

[13]The inconsistency between the negative savings–investment gap in Table 3 and the current account surplus in Table 2 is the result of statistical discrepancy.

[14]In a recent paper, Modigliani and Cao (2004) discuss the puzzle of the very high PRC saving ratio. They explain it in terms of the life-cycle hypothesis, that is, the savings ratio depends on the long-term rate of income growth of the economy. Indeed, they argue that the major systematic determinants of the rate of private savings in the PRC are the rate of growth of income and the demographic structure of the economy (the ratio of people under 15 years of age to the working population).

In the case of Korea, the savings rate declined slightly until 2002, and started recovering only in 2003 and 2004, when it reached again the 1996 level of about 35%. Something similar happened in Singapore and Thailand. Perhaps the most significant change has occurred in Indonesia, where the savings rate in 2004 was about 5 percentage points below the rate in 1996. There are only two cases where a significant increase has taken place, the Philippines (from 14.5% in 1995–19996 to 20.9% in 2004) and Viet Nam (from 17% in 1996 to 28.2% in 2003).

Table 4. Gross Domestic Savings (percent of GDP)

	1986	1990	1996	1997	1998	1999	2000	2001	2002	2003	2004
East Asia											
PRC	35.9	38.7	41.1	41.5	40.8	39.4	39	39.4	40.3	42.5	44.7
Hong Kong, China	32.2	35.2	29.7	30.2	29.4	29.8	31.7	29.6	31.1	31.6	31.6
Korea, Rep. of	35.6	37.2	35.7	35.8	37.9	35.8	33.9	31.9	31.4	33	35
Mongolia	13.7	8	—	—	14.3	14.6	10.4	5.7	3.7	8.8	—
Taipei,China	36.9	27.6	25.7	25.6	25.4	25.2	24.3	22.2	23.3	23.5	23.4
Southeast Asia											
Cambodia	—	2.3	-5.5	1.9	-0.5	4.9	7.1	9.7	12.2	—	—
Indonesia	27.3	32.3	30.1	31.5	26.5	19.5	31.8	31.5	26.8	24.9	25.3
Lao People's Dem. Rep.	—	—	—	—	—	—	—	—	—	—	—
Malaysia	32.1	34.4	42.9	43.9	48.7	47.4	47.3	42.3	42.1	42.3	43.8
Myanmar	10.1	11.7	11.5	11.8	11.8	13	12.3	11.3	—	—	—
Philippines	19	18.7	14.6	14.2	12.4	14.3	17.3	17.1	19	19.5	20.9
Singapore	38	43.3	51.1	52.1	53	49	47.4	44.2	44.2	46.8	48
Thailand	26.4	34.3	36.5	35.7	35.2	32.9	33	31.9	32.2	33.3	33.4
Viet Nam	—	2.9	17.2	20.1	21.5	24.6	27.1	28.8	28.7	28.2	—
South Asia											
Afghanistan	—	—	—	—	—	—	—	—	—	—	—
Bangladesh	12.5	12.9	14.9	15.9	17.4	17.7	17.9	18	18.2	18.6	19.5
Bhutan	8.9	28	35	24.6	22.3	25	19.5	27.4	32.4	—	—
India	18.9	21.4	23.8	24.6	22.6	21.6	22.6	22.1	23.9	24.9	—
Maldives	—	—	—	—	—	—	—	—	—	—	—
Nepal	—	—	—	—	—	—	—	—	—	—	—
Pakistan	10.9	13.5	14.5	13.2	16.7	14	16.1	16.1	16.7	17.3	17.9
Sri Lanka	10.9	13.2	15.3	17.3	19.1	19.5	17.4	15.8	14.4	15.9	15.9
Central Asia											
Azerbaijan	—	—	—	—	—	—	—	—	—	—	—
Kazakhstan	—	—	19.8	17.1	15.9	16.1	26.4	28.7	30.1	32	—
Kyrgyz Republic	—	3.7	-0.6	13.8	-6.1	3.2	14.3	17.7	13.8	11.6	—
Tajikistan	—	—	—	—	—	—	—	—	—	—	—
Turkmenistan	—	—	—	—	—	—	—	—	—	—	—
Uzbekistan	—	—	—	—	—	—	—	—	—	—	—

continued.

Table 4. continued.

The Pacific											
Cook Islands	—	—	—	—	—	—	—	—	—	—	—
Fiji Islands	—	—	—	—	—	—	—	—	—	—	—
Kiribati	—	—	—	—	—	—	—	—	—	—	—
Marshall Islands, Rep. of	—	—	—	—	—	—	—	—	—	—	—
Micronesia, Fed. States of	—	—	—	—	—	—	—	—	—	—	—
Nauru	—	—	—	—	—	—	—	—	—	—	—
Palau, Rep. of	—	—	—	—	—	—	—	—	—	—	—
Papua New Guinea	12	16.1	31	22.4	22.6	13.2	23.7	12.6	11.7	—	—
Samoa	—	—	—	—	—	—	—	—	—	—	—
Solomon Islands	—	—	—	—	—	—	—	—	—	—	—
Timor-Leste, Dem. Rep. of	—	—	—	—	—	—	—	—	—	—	—
Tonga	-20	-12.7	-32	-22.2	-29.6	-20.4	-14.6	-23.7	—	—	—
Tuvalu	—	—	—	—	—	—	—	—	—	—	—
Vanuatu	—	—	—	—	—	—	—	—	—	—	—

— means not available.
Source: *Key Indicators* (ADB various years).

In the Indian subcontinent, the savings rate of Bangladesh increased by about 6 percentage points and that of Bhutan has fallen. No significant changes occurred in the rest of the countries, including India, where the savings rate is about 24%.

The scattered data that exist for the Central Asian Republics and for the Pacific islands indicates that the savings rate doubled in Kazakhstan between 1995 (15.3%) and 2003 (32%), and that of Papua New Guinea fell from 41.3% in 1995 to 11.7% in 2002.

The conclusion is that the hypothesis that there is an Asian savings glut does not seem to be supported by the data, except in the case of the PRC. Nevertheless, even here the savings–investment surplus is decreasing. Moreover, there does not seem to be any significant difference between the savings rates before and after the Asian crisis.

C. Is there an Asian Investment Drought?

We now examine the alternative view that what Asia's current account really shows is not a savings glut but an investment drought. Table 5 shows gross domestic investment rates where the picture is very different from that of savings rates. Indeed, it can be noted that an across-the-board decline in gross investment rates took place between 1997 and 2003. In 2004 there was a generalized increase in investment rates. The clear exception is the PRC, where the investment rate increased from 37–38% in 1997–1998 to 45.3% in 2004.

The declines in the investment rate in the four NIES are very significant. The average investment rate of these four economies in 1997 was 33.4%. In 2003 it was 21.05%. The most significant decline took place in Singapore, where the rate went from 39.2% in 1997 to 14.8% in 2003. It is worth noting that the collapses did not take place simultaneously in all countries. Indeed, while in the case of Korea the investment rate declined by 11 percentage points between 1997 and 1998, the decline in Singapore was relatively smooth between 1998 and 2002, but the rate declined by 8 percentage points between 2002 and 2003. As indicated above, investment rates picked up in 2004, and in Singapore and Taipei,China, the rate increased by 4 percentage points between 2003 and 2004.

The declines have also been significant in other countries across Asia. Indonesia's savings rate in 2003 (17.6%) was about half that of 1997 (31.8%). The declines in Malaysia, Philippines, and Thailand between 1997 and 2003 were also very pronounced. The average of these four countries in 1997 was 33.32% while in 2003 it was 20.55%. As in the case of the NIEs, the investment rates picked up in 2004. In Indonesia, for example, it increased by more than 5 percentage points between 2003 and 2004.

Table 5. **Gross Domestic Investment (percent of GDP)**

	1986	1990	1996	1997	1998	1999	2000	2001	2002	2003	2004
East Asia											
PRC	37.7	34.7	39.6	38.2	37.7	37.4	36.3	38.5	40.2	43.8	45.3
Hong Kong, China	23.8	27.5	32.1	34.5	29.2	25.3	28.1	25.9	23.4	22.8	23
Korea, Rep. of	29.1	37.7	38.9	36	25	29.1	31	29.3	29.1	30	30.2
Mongolia	57.4	34.3	—	—	35.2	37	36.2	36.1	32.2	29	—
Taipei,China	17.5	23.1	23.2	24.2	24.9	23.4	22.8	17.7	16.7	16.6	20.7
Southeast Asia											
Cambodia	—	8.3	14.7	15.1	11.9	17	17.2	21.2	22.2	—	—
Indonesia	28.3	30.7	30.7	31.8	16.8	11.4	22.2	22	20.9	17.6	22.8
Lao People's Dem. Rep.	—	—	—	—	—	—	—	—	—	—	—
Malaysia	26	32.4	41.5	43	26.7	22.4	27.3	23.9	23.8	21.4	22.5
Myanmar	12.7	13.4	12.3	12.5	12.4	13.4	12.4	11.3	—	—	—
Philippines	15.2	24.2	24	24.8	20.3	18.8	21.2	19	17.6	16.6	17
Singapore	37.6	36.4	35.8	39.2	32.3	32	32.5	26	22.8	14.8	18.3
Thailand	25.9	41.4	41.8	33.7	20.4	20.5	22.8	24.1	23.9	25	27.1
Viet Nam	—	12.6	28.1	28.3	29	27.6	29.6	31.2	33.2	35.1	—
South Asia											
Afghanistan	—	—	—	—	—	—	—	—	—	—	—
Bangladesh	16.7	17.1	20	20.7	21.6	22.2	23	23.1	23.1	23.4	24
Bhutan	40.5	32	44.7	34.1	37.6	43	48.4	52	53.3	—	—
India	21	24.1	21.8	22.6	21.4	23.7	22.6	22.4	22.9	—	—

Table 5. continued.

Maldives	—	—	—	—	—	—	—	—	—	—	—
Nepal	—	—	—	—	—	—	—	—	—	—	—
Pakistan	18.8	18.9	19	17.9	17.7	15.6	17.4	17.2	16.8	16.7	18.1
Sri Lanka	23.1	21.2	24.2	24.4	25.2	27.3	28	22	21.4	22.2	25
Central Asia											
Azerbaijan	—	—	—	—	—	—	—	—	—	—	—
Kazakhstan	—	—	16.1	15.6	15.8	17.8	18.1	26.9	27.3	26.6	—
Kyrgyz Republic	—	24.3	25.2	21.7	15.4	18	20	18	17.6	16.2	—
Tajikistan	—	—	—	—	—	—	—	—	—	—	—
Turkmenistan	—	—	—	—	—	—	—	—	—	—	—
Uzbekistan	—	—	—	—	—	—	—	—	—	—	—
The Pacific											
Cook Islands	—	—	—	—	—	—	—	—	—	—	—
Fiji Islands	—	—	—	—	—	—	—	—	—	—	—
Kiribati	—	—	—	—	—	—	—	—	—	—	—
Marshall Islands, Rep. of	—	—	—	—	—	—	—	—	—	—	—
Micronesia, Fed. States of	—	—	—	—	—	—	—	—	—	—	—
Nauru	—	—	—	—	—	—	—	—	—	—	—
Palau, Rep. of	—	—	—	—	—	—	—	—	—	—	—
Papua New Guinea	19.7	24.4	22.7	21.1	17.9	16.1	21.3	21.8	19.8	—	—
Samoa	—	—	—	—	—	—	—	—	—	—	—
Solomon Islands	—	—	—	—	—	—	—	—	—	—	—
Timor-Leste, Dem. Rep. of	—	—	—	—	—	—	—	—	—	—	—
Tonga	—	—	22.8	18.8	19.9	22	21.8	—	—	—	—
Tuvalu	—	—	—	—	—	—	—	—	—	—	—
Vanuatu	—	—	—	—	—	—	—	—	—	—	—

——— means not available.
Source: *Key Indicators* (ADB various years).

The investment rate in other Asian countries has not changed much, except in Bangladesh, where it increased from 34.1% in 1997 to 53.3% in 2002 (the investment rate in this country declined from over 40% in the early to mid-1990s to 34% in 1997). The investment rate is stable in India, at about 22–23%.

The conclusion we derive from the analysis in this section is that indeed, investment rates in East and Southeast Asia fell after the Asian crisis and they have not recovered yet, although a change in the trend seems to emerge between 2003 and 2004.[15] It could be argued, nevertheless, that the 1997 investment rates,

---

[15]Similar conclusions arise when the data is analyzed in terms of the level of investment (in real terms). There was a clear collapse during the Asian financial crisis and still today investment in real terms is below the 1997 values in most countries. In Singapore, for example,

just before the financial collapse, reflected excesses that led to poor investment decisions. In fact, it has been argued that this is one of the reasons behind the crisis. Hence, the investment declines partly reflect a correction and a return to more sensible investment levels. This is possible, but impossible to know with certainty. The truth is that investment rates in the region show an increasing trend. The 1986 average for the NIEs was 27%, and for the four Southeast Asian countries 23.85%. The corresponding 1990 averages were 31.17% and of 32.17%, respectively. This indicates that the 2004 investment rates are, with some exceptions, starting to approach those of the 1990s before the financial crisis.

V. WHY IS THERE AN INVESTMENT DROUGHT IN ASIA?

Having concluded in the previous sections that Asia's current account surpluses probably reflect an investment drought rather than a savings glut, in this section we discuss a number of possible explanations. In particular we discuss four possible reasons: (i) an increase in interest rates that led to an increase in the cost of financing investment, (ii) a decline in credit, (iii) a decline in profit rates, and (iv) a very high capacity utilization rate before the Asian crisis that led to excess capacity after the crisis.

Table 6 shows the real lending rates for the countries where investment declined. It indicates that the general decline in investment rates between 1998 and 2003 coincided with a generalized decline in lending rates across East and Southeast Asia after 1998. Therefore, it seems that the hypothesis that increases in lending rates drove down investment rates is not supported by the data.

With regard to credit (Table 6), all countries that suffered declines in investment rates between 1998 and 2003, except Korea, saw a stagnation or decline in the ratio of domestic credit to GDP during much of this period. Interestingly, this stagnation or decline in domestic credit to GDP continued in 2004 when investment rates started recovering. This probably indicates that the investment undertaken in 2004 was probably financed mainly out of retained earnings. The stagnation or decline in the ratio of domestic credit to GDP may be related to shaky financial confidence in the crisis-hit ASEAN-4. The harsher requirements of higher capital-adequacy ratios and higher loan-loss provisions may also have contributed to the more cautious lending of financial institutions. The "overlending" and "overborrowing" syndrome characteristic of the pre-Asian crisis period seems to have been followed by a period of extreme caution in terms of lending, except in Korea, where the domestic credit-to-GDP ratio increased after the Asian crisis. Here, there were loan default problems during 2002–2004, especially in consumption-oriented credit (linked to credit card default payments). Financial lending restraint also affected financially more sophisticated

the 2003 and 2004 levels of real investment were only 50% and 65%, respectively, that of 1997.

places, such as Hong Kong, China; Singapore; and Taipei,China. The restraint can only be explained by the lack of demand for investment funds.

Table 6. **Real Lending Rates and Domestic Credit, 1986–2004**

	1986	1990	1996	1997	1998	1999	2000	2001	2002	2003	2004
Real Lending Rates (%)											
East Asia											
PRC	0.7	6.3	1.8	5.8	7.2	7.3	5.6	5.4	6.1	4.2	n.a.
Hong Kong, China	n.a.	-0.3	2.1	3.7	6.1	12.5	13.3	6.7	8.0	7.6	5.4
Korea, Rep. of	7.0	1.4	3.9	7.5	7.7	8.6	6.3	3.6	4.1	2.7	2.3
Taipei,China											
Southeast Asia											
Indonesia	12.4	13.0	11.3	15.6	-26.2	7.2	14.7	7.0	7.1	10.4	7.9
Malaysia	10.1	6.2	6.5	8.0	6.9	5.8	6.1	5.7	4.7	5.2	4.6
Philippines	10.3	10.9	7.3	10.7	7.5	5.8	7.0	5.6	6.1	6.0	4.1
Singapore	5.6	3.9	4.9	4.3	7.7	5.8	4.5	4.7	5.8	4.8	3.6
Thailand	8.2	8.5	7.6	8.1	6.3	8.7	6.3	5.6	6.3	4.1	2.7
Domestic Credit (% of GDP)											
East Asia											
PRC	77.8	90.0	97.9	106.8	121.9	130.4	132.7	138.6	165.8	177.9	166.9
Hong Kong, China	n.a.	154.9	154.8	165.5	147.8	139.3	139.1	141.7	145.9	147.8	147.9
Korea, Rep. of	53.7	57.1	56.9	62.7	71.9	77.8	82.9	87.8	94.2	97.8	92.6
Taipei,China	67.2	103.6	160.1	162.9	164.9	163.5	163.6	165.1	156.5	159.0	167.4
Southeast Asia											
Indonesia	17.1	41.4	50.2	54.5	54.7	56.9	61.3	53.9	51.3	48.6	48.8
Malaysia	81.3	75.7	107.8	126.6	122.6	113.8	110.6	116.0	116.0	118.5	116.0
Philippines	28.0	23.3	67.9	78.5	70.1	64.2	63.2	59.6	57.6	56.7	54.8
Singapore	77.6	61.5	66.5	72.9	88.9	86.2	79.4	94.1	76.7	83.3	76.4
Thailand	65.3	69.9	100.7	131.9	133.3	127.4	111.0	100.2	101.8	96.0	91.7

Note: Lending rates for 1986 are for 1987. Real lending rates were computed as the difference between the nominal lending rate and the consumer price index.

Source: *International Financial Statistics* (IMF various years).

Table 7 shows the demand components of GDP for a number of countries. It is clear that the decline in investment rates that took place between 1998 and 2003 was compensated only to a very small extent by increases in consumption in Korea; Malaysia; Singapore; Taipei,China; and Thailand. Instead, the significant decline in investment rates during this period was largely compensated by large net export surpluses, especially in Hong Kong, China; Indonesia; Malaysia; Singapore; Thailand; and Taipei,China. Net exports have replaced investment as the source of growth stimulus from the demand side in these countries.

Table 7. **Consumption, Investment, and Net Export Share to GDP, 1986–2004**

	1986	1990	1996	1997	1998	1999	2000	2001	2002	2003	2004
Private and Government Consumption (% of GDP)											
East Asia											
PRC	64.1	61.3	58.9	58.5	59.2	60.6	61.0	60.6	59.7	57.5	55.3
Hong Kong, China	67.8	64.8	70.3	69.8	70.6	70.2	68.3	70.4	68.9	68.4	68.4
Korea, Rep. of	64.4	62.8	64.3	64.2	62.1	64.2	66.1	68.1	68.6	67.0	65.0
Taipei,China	63.1	72.4	74.3	74.4	74.6	74.8	75.7	77.8	76.7	76.5	76.6
Southeast Asia											
Indonesia	72.7	67.7	69.9	68.5	73.5	80.5	68.2	68.5	73.2	75.1	74.7
Malaysia	67.9	65.6	57.1	56.1	51.3	52.6	52.7	57.7	57.9	57.7	56.2
Philippines	81.0	81.3	85.4	85.8	87.6	85.7	82.7	82.9	81.0	80.5	79.1
Singapore	62.0	56.7	48.9	47.9	47.0	51.0	52.6	55.8	55.8	53.2	52.0
Thailand	73.6	65.7	63.5	64.3	64.8	67.1	67.0	68.1	67.8	66.7	66.6
Gross Domestic Investment (% of GDP)											
East Asia											
PRC	38.0	32.2	39.3	38.0	37.4	37.1	36.4	38.0	39.3	42.7	45.3
Hong Kong, China	23.8	27.5	32.1	34.5	29.2	25.3	28.1	25.9	23.4	22.8	23.0
Korea, Rep. of	29.1	37.7	38.9	36.0	25.0	29.1	31.0	29.3	29.1	30.0	30.2
Taipei,China	17.5	23.1	23.2	24.2	24.9	23.4	22.8	17.7	16.7	16.6	20.7
Southeast Asia											
Indonesia	28.3	30.7	30.7	31.8	16.8	11.4	22.2	22.0	20.9	17.6	22.8
Malaysia	26.0	32.4	41.5	43.0	26.7	22.4	27.3	23.9	23.8	21.4	22.5
Philippines	15.2	24.2	24.0	24.8	20.3	18.8	21.2	19.0	17.6	16.6	17.0
Singapore	37.6	36.4	35.8	39.2	32.3	32.0	32.5	26.0	22.8	14.8	18.3
Thailand	25.9	41.4	41.8	33.7	20.4	20.5	22.8	24.1	23.9	25.0	27.1
Net Exports (% of GDP)											
East Asia											
PRC	−1.8	4.0	1.5	3.3	3.1	2.0	2.6	1.0	0.1	−1.3	−0.5
Hong Kong, China	8.3	7.6	−2.4	−4.3	0.2	4.6	3.6	3.7	7.7	8.7	8.6
Korea, Rep. of	6.5	−0.5	−3.1	−0.2	12.9	6.6	2.9	2.6	2.3	3.1	4.8
Taipei,China	19.4	4.5	2.5	1.4	0.5	1.8	1.5	4.5	6.6	6.9	2.7
Southeast Asia											
Indonesia	−1.0	1.5	−0.6	−0.3	9.8	8.1	9.6	9.5	5.9	7.3	2.5
Malaysia	6.1	2.0	1.4	0.9	22.0	25.1	20.0	18.4	18.3	21.0	21.4
Philippines	3.8	−5.5	−9.4	−10.6	−7.9	−4.4	−3.9	−1.9	1.4	2.9	3.8
Singapore	0.3	6.9	15.2	12.8	20.7	17.0	14.9	18.1	21.4	32.0	29.7
Thailand	0.5	−7.1	−5.3	2.0	14.8	12.4	10.2	7.8	8.4	8.3	6.3

Source: *Key Indicators* (ADB various years).

To shed light on the argument that the decline in investment was driven by a decline in profit rates, we computed average profit rates for Indonesia, Malaysia, Philippines, Singapore, and Thailand.[16] Table 8 shows that the declines in profit rates were relatively small compared to the sharp decline in investment rates, except perhaps in Indonesia, where the profit rate declined by almost 7 percentage points between 1997 and 1998. In the Philippines, the profit rate has

---

[16]Average profit rates were computed as the ratio of total profits ("surplus" in national accounts terminology) to the stock of capital.

not declined. In Malaysia, Singapore, and Thailand the profit rate declines were rather mild.

Table 8. **Profit Rates (percent)**

	1981	1986	1990	1996	1997	1998	1999	2000	2001	2002	2003
Indonesia	37.6	21.9	19.0	14.9	15.8	18.4	11.7	14.7	14.0	14.1	14.8
Malaysia	16.2	9.0	13.5	15.5	14.7	11.2	11.3	11.2	14.0	14.0	14.2
Philippines	9.4	8.4	10.9	12.5	12.3	11.5	11.9	11.6	12.0	12.0	12.6
Singapore	22.9	14.5	16.9	17.8	17.5	15.2	15.5	16.3	13.8	13.8	13.6
Thailand	7.5	7.1	10.5	10.2	8.8	7.0	5.9	6.6	6.9	7.6	8.0

Source: Authors' calculations.

The fourth hypothesis is that the fall in investment rates was due to the fact that many countries in the region worked at very high rates of capacity utilization before the crisis, which led to the creation of excess capacity afterward. For this purpose, we computed the ratio of the growth rate of the capital stock to the profit rate or throughput ratio. One can interpret the throughput ratio as an indicator of the degree to which the growth potential of the economy is being utilized (Shaikh 1999). A ratio below one indicates that the country's capacity for investment is not fully utilized. The more this ratio approaches one, the higher the probability that excess demand will end up accelerating inflation rather than boosting growth. In some sense, it is an indicator of the tightness of the economy and a proxy for capacity utilization: when the ratio approaches one, the investment potential of the economy is being realized to its fullest. Then the economy starts creating excess capacity. When a crisis erupts the ratio falls mostly due to the fall in capital accumulation.[17]

Table 9 shows the throughput ratio for the same groups for four countries. The Philippines is a clear case where the lack of investment is related to the country's political situation. The Philippines clearly did not work at high levels of capacity utilization during the 1990s, prior to the financial crisis.

Table 9. **Throughput Ratio (percent)**

	1981	1986	1990	1996	1997	1998	1999	2000	2001	2002	2003
Indonesia	37.4	55.9	66.7	82.0	76.1	39.7	49.6	43.1	46.0	43.5	39.9
Malaysia	74.8	50.4	64.6	79.8	82.7	35.3	29.6	47.3	28.0	29.4	24.1
Philippines	70.8	3.8	33.7	32.5	37.9	28.2	23.4	24.0	22.4	22.3	21.2
Singapore	50.2	64.6	36.7	48.0	59.2	68.0	52.8	41.1	50.3	41.6	31.7
Thailand	115.7	79.4	129.0	106.0	69.4	5.1	2.1	6.9	7.2	11.7	20.5

Source: Authors' calculations.

---

[17]The Polish economist Kalecki (1939), asking the question "What causes periodical crises?" argued that the tragedy of investment is that "it causes crises because it is useful" (Kalecki 1939, 148–9).

In the other four cases, the situation is different. In Indonesia the throughput ratio reached its peak in 1995–1996 (86% and 82%, respectively). Then it started falling, and between 1997 and 1998 it collapsed. It has not recovered yet. In Malaysia it reached the peak in 1983 (92.5%). Then it declined during the rest of the decade but started rising in the early 1990s, reaching a peak again in the years before the Asian crisis, with values around 80%. In 1997 it collapsed. In Singapore, the ratio increased between 1981 and 1986, when it reached a value of 95%. The ratio then experienced a sharp decline of about 30 percentage points between 1985 and 1986 and then it further declined through the late 1980s and early 1990s. Then it increased through the 1990s and reached a value of 68% in 1998. The ratio then lost about 27 percentage points between 1998 and 2000, and another 10 percentage points between 2002 and 2003. Overall, Singapore did not create substantial excess capacity between the mid-1980s and mid-1990s, i.e., before 1997–1998. In the case of Thailand it is very clear that the economy worked at a very high capacity utilization rate before the crisis. The throughput ratio was very high during the period 1981–1996, very close to unity, if not above. Then in 1997 it underwent a sharp decline and in 1998 it completely collapsed due to the stagnation of capital accumulation. Thailand is a clear case where the decline in investment appears to be associated with the creation of large excess capacity after the Asian crisis.

The conclusion of this brief analysis is that the two most likely reasons why investment rates fell following the Asian financial crisis are the stagnation of credit and the creation of excess capacity. To test these hypotheses, we estimated a regression of the investment rate (I/Y) using panel data for Indonesia, Malaysia, Philippines, Singapore, and Thailand for 1986–2003. Results are shown in Table 10. The explanatory variables are investment rate lagged one period (I/Y_{-1}), real domestic credit as percent of GDP (CRE); the profit rate, current (PRO) and lagged one period (PRO_{-1}); the throughput ratio, current (THR) and lagged one period (THR_{-1}); an interaction term between the throughput ratio and the profit rate $(PRO*THR)$; country dummies $(D\_INO, D\_MAL, D\_PHI, D\_SIN, D\_THA)$ and year dummies $(D1987$ through $D2002)$. The default for the country dummy variables is the Philippines, and the default for the years is 2003.[18]

---

[18]A corresponding regression for savings was not estimated as the savings glut hypothesis was dismissed above. Eichengreen's (2006) analysis shows that that the savings rate is positively correlated with GDP growth, and negatively related to the dependency rate and the efficiency of financial intermediation. This explains the fact that the savings rates of the East Asian countries declined slightly. It also explains why the savings rate in Europe and Japan are not increasing due to an aging population. The high growth rate of the PRC, as well as its

Table 10. **Determinants of Investment Rates in Southeast Asia**

Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	0.016253	0.035325	0.460089	0.6472
(I/Y_{-1})	0.580077	0.109384	5.303146	0
(CRE)	0.04513	0.029942	1.507245	0.1373
(PRO)	0.639397	0.287768	2.22192	0.0303
(PRO_{-1})	-0.69223	0.22435	-3.085487	0.0031
(THR)	0.046633	0.048071	0.970074	0.3361
(THR_{-1})	-0.109763	0.030315	-3.62078	0.0006
(D_INO)	-0.026173	0.011877	-2.203627	0.0316
(D_MAL)	-0.010911	0.017385	-0.627589	0.5328
(D_SIN)	0.000621	0.012751	0.048683	0.9613
(D_THA)	0.014774	0.0195	0.757679	0.4518
D1987	0.053728	0.015508	3.464595	0.001
D1988	0.043263	0.016092	2.688517	0.0094
D1989	0.060368	0.015827	3.81431	0.0003
D1990	0.053307	0.016137	3.303337	0.0017
D1991	0.057595	0.016968	3.39433	0.0013
D1992	0.053859	0.017088	3.151867	0.0026
D1993	0.051893	0.015951	3.253352	0.0019
D1994	0.043135	0.016027	2.691415	0.0093
D1995	0.049416	0.015709	3.14571	0.0026
D1996	0.041869	0.015627	2.679266	0.0096
D1997	0.04432	0.015597	2.841477	0.0062
D1998	-0.008024	0.015848	-0.506278	0.6146
D1999	0.01692	0.013368	1.265743	0.2108
D2000	0.051991	0.012881	4.036404	0.0002
D2001	0.015396	0.01295	1.188871	0.2394
D2002	0.017625	0.012512	1.408711	0.1644
PRO * THR	1.114999	0.375739	2.967485	0.0044
R-squared	0.959185	Mean dependent var		0.288951
Adjusted R-squared	0.939851	S.D. dependent var		0.079884
S.E. of regression	0.019592	Akaike info criterion		-4.768182
Sum squared resid.	0.021879	Schwarz criterion		-3.963544
Log likelihood	230.6477	F-statistic		49.61245
Durbin-Watson stat	1.937304	Prob(F-statistic)		0

Note: Dependent variable: (I/Y).

Method: least squares.

No. of observations: 85.

underdeveloped consumer credit and financial markets explain partly the country's high savings rate.

The most important results are as follows:

(i)   The regression displays a very high fit, explaining about 96% of the variation in investment rates.
(ii)   The real interest rate was dropped from the analysis for it had a positive sign.
(iii)   Real domestic credit (as a percent of GDP) is marginally significant and positively related to the investment rate.
(iv)   The profit rate, by itself, has a nil effect on the investment rate (the sum of the coefficients of the current and lagged profit rate is approximately zero), but the interaction effect of profit rate with the throughput ratio is positive. This indicates that a higher profit rate, together with high capacity utilization, leads to higher investment rates, and vice versa.
(v)   The interaction effect shows that that high capacity utilization, together with high profit rates, will lead to higher investment rates (while low capacity utilization together with low profit rates will lead to lower investment rates). But without the interaction effect, the throughput ratio has a negative sign (sum of the current and lagged coefficient). This means that high capacity utilization, unsupported by high profit rates, will lower the investment rate.
(vi)   The country dummies show no significant effects (outside the explanatory variables mentioned above) for Malaysia, Singapore, and Thailand. The dummy variable for Indonesia has a negative sign, which means that, controlling for the effects of the other explanatory variables, this country has a lower investment rate than the Philippines.
(vii)   The year dummies indicate that all years have higher investment rates (outside the effects of the explanatory variables) than 2003, except for 1998, the critical year of the Asian financial crisis.

VI. CONCLUSIONS AND FINAL REMARKS: TOWARD AN ORDERLY REDUCTION OF GLOBAL IMBALANCES[19]

During the last few years, economists have referred to the existence of a global imbalance in the world, mainly reflected in a large and increasing US current account deficit. To some extent, the counterpart of this deficit is a

---

[19]At the time of completion of this paper's final draft in April 2006, it was announced that the International Monetary Fund had been given the mandate to start negotiations between countries with the largest trade imbalances. The goal is to secure agreements and cooperation to reform economic and exchange rate policies to close trade gaps and prevent a global financial crisis. This is an acknowledgement that the imbalances are not exclusively the result of the US budget deficit, but the product of global forces.

significant current account surplus in many Asian countries. The analysis in this paper indicates that the counterpart of this surplus is the collapse of investment following the Asian financial crisis of 1997–1998, and it is not due to a savings glut in the region, as some have argued.

We have explored four hypotheses in an attempt to shed light on the reasons behind the investment collapse. The first one is that the decline in investment was the result of an increase in interest rates that has led to an increase in the cost of financing investment. The second hypothesis is that after the financial crisis there was a decline in credit. The third hypothesis is that there was a decline in profit rates. The final hypothesis is that many countries in the region worked at very high rates of capacity utilization before the crisis, which led to the creation of excess capacity.

Regression analysis has shed light on the relevance of these four hypotheses. The conclusion is that credit availability, profit rate, and throughput ratio are important variables explaining variations across countries and across time in investment rates.

The countries hit by the Asian crisis were criticized for overborrowing and for maintaining fixed exchange rate regimes that led to overvalued currencies. This situation led to an undue emphasis on domestic demand expansion and over-investment, triggering current account deficits. At this point in time, when global imbalances have turned the other way and the countries affected by the financial crisis (and many of their neighbors) have changed their policies and gone into more (net) export-led growth (partly by allowing significant depreciations of their currencies), the criticisms have turned around: now these countries are asked to reduce their net export orientation and return to a more domestic-demand-driven growth. It is important that contradictions in policy prescriptions for the Asian economies be acknowledged and reconciled.

The analysis in the paper shows that the recent accumulation of a significant amount of international reserves across many Asian countries is the result of both current and capital account surpluses. The current account surpluses reflect a combination of declines in investment after the Asian crisis, and of increasing trade surpluses. The large decline in investment rates in East and Southeast Asia is, to a large extent, a correction of the domestic-demand-driven growth during the 1990s, which led to excessive overborrowing and over-investment. Investment rates are back today to where they were in the late 1980s. As our analysis above shows, except in the PRC, the fall in investment rates has been more than offset by increases in net exports, as East and Southeast Asian countries have returned to a more outward orientation.

It has been argued, mostly in the US, that the current account and savings–investment surpluses as well as the accumulation of international reserves of some East and Southeast Asian countries, particularly the PRC, are

causing an international imbalance. This perception, however, should be put in proper perspective. Indeed, US trade deficits with Asia (excluding Japan) made up only 37.8% of the US trade deficit in 2004, while 62.2% of the deficit came from deficits with other regions of the world. The current account surpluses of the Asian countries have to do with surpluses among themselves and with other developed countries (e.g., exports of Hong Kong, China; Korea; and Taipei,China, rely a lot on the PRC market). The PRC has trade deficits with developing countries as a whole, and with Asia as a whole. It is only with the US and the EU that the PRC enjoys large trade surpluses.

What can Asian countries with large international reserves do to reduce the current global imbalances? The analysis in this paper indicates that there are a number of interlinked issues for an orderly and concerted reduction in international imbalances, in line with the most balanced proposals (Rajan 2006, Eichengreen 2006):[20]

(i)   There is a need for a worldwide adjustment in current account balances. It is obvious that a substantial reduction in the US current account deficit must entail deterioration in somebody else's current account. However, it is important to stress that many Asian countries are important contributors to the financing the US deficit. This situation is seen by many as rather shaky and prone to leading toward a crisis if the US current deficit continues to widen, as the Asian countries could decide to place their reserves somewhere else. The solution has to entail an *overall* reduction in imbalances, as this is not a bilateral issue. For this reason, it is not easy to determine how it can be done.

There have been strong calls for the Asian countries to return to a more domestic-demand-driven growth. Part of this policy recommendation is to allow their currencies to significantly appreciate, especially against the US dollar. But memories of the Asian crisis and the PRC's sizeable trade deficits with the developing world (especially with the Organization of Petroleum Exporting Countries) may limit these countries' enthusiasm to pursue this route. Indeed, given that one of the lessons of the Asian crisis was that countries with large international reserves and current account surpluses were able to withstand financial and foreign exchange crises, it will be difficult to persuade countries in the region to give up their export-led strategy and switch back to domestic-demand-led growth.

---

[20]To this, it must be added that the US must do its part to reduce its current account balance. The US must reduce the budget deficit and increase its savings rate. Europe and Japan should also contribute by increasing domestic demand growth relative to output growth, reducing their savings–investment balance and through real currency appreciation. See Mussa (2005).

(ii) Except for the PRC (until July 2005), the currencies of many East and Southeast Asian countries have appreciated moderately with respect to the US dollar, especially in 2005 and 2006. The pressure is now on the PRC to further appreciate its currency (which started in July 2005) with respect to the US dollar. However, the issue is more complex and will require a multilateral approach. What is needed is a gradual process of upward adjustment vis-à-vis the US dollar of a number of Asian currencies. In this respect two caveats are needed:

(a) The PRC has sizeable trade deficits with other developing countries. Its trade surpluses are largely with the US and the EU. For this reason, a large appreciation of the renminbi might not be advisable. A very significant currency appreciation may very well lead to a serious switch into a current account deficit with the US and the EU, and a surplus with the developing world (as had happened to Korea after its currency appreciation in 1985–1986). Perhaps a maximum of 10% appreciation in the short or medium term may be first experimented upon and its impact assessed before any further appreciation is allowed.[21]

(b) Lau and Sitglitz (2005) have recently suggested that more than an appreciation of the renminbi, the solution might lie in export taxes on products exported by the PRC to the US. The authors indicate that the imposition of taxes on the PRC's exports has the advantage that they would not lead to financial losses for the PRC holders of dollar-denominated assets (e.g., the PRC's central bank). Perhaps, parallel tariff cuts on PRC imports from the US should also be studied. This will limit the effects of these measures to trade between the two countries, rather than affect the PRC's trade with all countries. This would also prevent undesired effects on FDI. Other East and Southeast Asian countries with large trade surpluses with the US can also contemplate similar policy options. Export taxes and reductions in import tariffs, like a currency appreciation, reduce the net export orientation of the economy and shift it toward domestic-demand-driven growth. But, unlike currency depreciation, they allow the Asian countries to implement selective and targeted interventions to ensure that their current accounts do not deteriorate in an uncontrolled fashion and trigger another crisis.

---

[21]See Park (2005) on the possible effects of an appreciation of the renminbi.

(iii)   The US needs to increase its domestic savings rate, reduce its fiscal deficit, and increase its household savings.

(iv)   The international community needs to put in place mechanisms to prevent financial crises. The important question is that one reason for the East and Southeast Asian countries' large accumulation of reserves has been a precautionary motive in order to be able to face a potential financial crisis like that of the late 1990s. The situation today is significantly different because if such a crisis materialized, the US would not play today the same role as in the past, namely, that of absorbing the affected countries' exports. For this reason, all involved countries have an interest in avoiding possible future developing-country financial crises.

It is important to note that lurking beneath Asia's rising current account surpluses and international reserves are significant structural challenges (Felipe et al. 2006). Outside of the PRC, recent current account surpluses in developing Asia are associated with investment rates that are well below historical averages. Investment rates also appear low compared to assessments of needs, in particular in terms of the gaps that exist in physical infrastructure provision in Asia. If these infrastructure constraints are not addressed, they will eventually limit potential growth. To make this happen, improvements will be needed in legal, regulatory, and financial systems. Strengthened governance will be crucial to most of these changes. In the PRC, current account surpluses appear to reflect more of a glut of savings rather than a drought of investment. The new Eleventh Five-Year Program (ADB 2006, 117–24) foreshadows important shifts in government priorities that should help address stresses and emerging imbalances.

A second important challenge that fast reserve accumulation in developing Asia points to is the need for deeper and more efficient domestic and regional capital markets. Cross-border investment originating in Asia is still predominantly directed to the US and Europe, despite savings deficits in some parts of the region. This possibly reflects an inadequate supply of profitable investment outlets, but a weak domestic institutional investor base, information gaps, regulatory weaknesses, and shallow markets have added to the outflow and left central banks to play a prominent intermediation role. A more efficient use of surpluses will require determined efforts to deepen private sector participation in both domestic and regional capital markets. This, in turn, will require legal, regulatory and other institutional reforms, the success of which will hinge on improved governance.

Finally, the imbalances debate and heightened concerns about global economic stability serve as a timely reminder of the need to buttress social protection and insurance mechanisms, and the importance of public expenditure

policies that are pro-poor and which provide adequate support for sustainable livelihoods for the poor and vulnerable. Developing Asia must also recognize that as its international economic footprint gets larger, so too should it prepare for the possibility of global economic shocks.

REFERENCES

Asian Development Bank (ADB). 2005. "Export or Domestic Demand-Led Growth in Developing Asia?" In *Asian Development Outlook 2005*. Hong Kong, China: Oxford University Press for the Asian Development Bank.

———. 2006. *Asian Development Outlook 2006*. Hong Kong, China: Oxford University Press for the Asian Development Bank.

———. Various years. *Key Indicators*. Manila, Philippines.

Bernanke, B. S. 2005. "The Global Savings Glut and the US Current Account Deficit." Available: http://www.federalreserve.gov/boardsdoc/speeches/2005/20050414/default. htm.

Blanchard, O., F. Giavazzi, and F. Sa. 2005. The US Current Account and the Dollar. MIT Department of Economics Working Paper No. 05-02, Massachusetts Institute of Technology, Cambridge.

Eichengreen, B. 2004. Global Imbalances and the Lessons of Bretton Woods. NBER Working Paper No. 10497, National Bureau of Economic Research, Cambridge. Available: http://www.nber.org/papers/w10497.

———. 2006. "The Blind Men and the Elephant." *Issues in Economic Policy* 1(January):1–25.

Felipe, J., A. Mehta, and F. Harrigan. 2006. International Payments Imbalances. ERD Policy Brief No. 45, Economics and Research Department, Asian Development Bank, Manila, Philippines.

International Monetary Fund. 2005. *World Economic Outlook*. Washington, DC.

———. Various years. *International Financial Statistics*. Washington, DC.

Kalecli, M. 1939. *Essays in the Theory of Economic Fluctuations*. London: Allen & Unwin.

Lau, L., and J. Stiglitz. 2005. "China's Alternative to Revaluation." *Financial Times*. 25 April. Page 21.

McCombie, JSL., and A. P. Thirlwall. 1994. *Economic Growth and the Balance-of-Payments Constraint*. New York: St. Martin's Press.

McKinnon, R. 2005. "Exchange Rates, Wages, and International Adjustment: Japan and China versus the United States." Downloaded February. Available: http://www.frbsf.org/economics/conferences/0502/International Adjustment2.pdf.

Modigliani, F., and S. L. Cao. 2004. "The Chinese Saving Puzzle and the Life-Cycle Hypothesis." *Journal of Economic Literature* XLII(March):145–70.

Mussa, M. 2005. "Sustaining Global Growth while Reducing External Imbalances." In C. F. Bersten, ed., *The United States and the World Economy*. Institute for International Economics, Washington, DC.

Park, C. Y. 2005. Coping with Global Imbalances and Asian Currencies. ERD Policy Brief
    Series No. 37, Economics and Research Department, Asian Development Bank, Manila.
Rajan, R. 2006. "Perspectives on Global Imbalances." Paper presented at the Global Financial
    Imbalances Conference, 23 January, London.
Roubini, N. 2005. "Global Imbalances: A Contemporary Rashomon Tale with Five
    Interpretations."   Downloaded   1   May.   Available:
    http://www.roubiniglobal.com/archives /2005/05/global_imbalanc.html.
Shaikh, A. 1999. "Explaining Inflation and Unemployment: An Alternative to Neoliberal
    Economic Policy." In A. Vachlou, ed., *Contemporary Economic Theory*. London:
    Macmillan.